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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,306

07/26/2006

Takeshi Morimoto

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EXAMINER

KING, JOSHUA

ART UNIT

PAPER NUMBER

2828

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,306	Applicant(s) MORIMOTO, TAKESHI	
	Examiner JOSHUA KING	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/26/2006, 12/10/2007, 04/21/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. This application is a national stage entry of PCT/JP04/18291 filed on Dec. 8, 2004.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 07/26/2006, 12/10/2007 and 04/21/2009 were filed after the filing date of the instant application on 07/26/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 2-4 and 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 2-4 and 10-12 contradict the disclosure of the instant application. The issue is the word "plane". There are numerous "planes" which meet the definition of the word in the claim.
6. Claims 3, 4, 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
7. "Odd" and "Even" are not clearly defined.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Tsunekane (JP 2004-014917).

10. **With respect to claims 1 and 9**, Tsunekane discloses a laser-diode-pumped solid-state laser oscillator (title), characterized by comprising: a solid-state pumping medium (Fig. 1 element 7); a plurality of laser diodes arranged around said solid-state pumping medium and adapted to irradiate pumping light to said solid-state pumping medium (Fig. 1 element LD1-LD4); detection means adapted to detect a failure of said laser diode (Fig. 1 element S1); and control means adapted to determine a position of said laser diode, the failure of which is detected by said detection means, and to control supply currents to other normal laser diodes, according to the position of said laser diode whose failure occurs ([0006]).

11. **With respect to claims 2 and 10**, Tsunekane further discloses characterized in that: said control means is adapted to stop supply of electric current to and turn off a part or all of normal laser diodes positioned on a same plane as the position of said laser diode whose failure occurs and perpendicular to a central axis of said solid-state pumping medium (solution). It should be noted that this claim does not further limit

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claim 1. This describes the function of the device and not the device itself. The device of Tsunekane is capable of functioning as claimed.

12. **With respect to claims 3 and 11**, Tsunekane further discloses characterized in that: said control means is adapted to stop supply of electric current to and turn off a normal laser diode provided at a position facing the position of the laser diode whose failure occurs in a case where a direction number of said laser diodes is even (solution). It should be noted that this claim does not further limit claim 2. This describes the function of the device and not the device itself. The device of Tsunekane is capable of functioning as claimed.

13. **With respect to claims 4 and 12**, Tsunekane further discloses characterized in that: said control means is adapted to stop supply of electric current to and turn off all of the normal laser diodes positioned on the same plane as the position of said laser diode whose failure is caused and perpendicular to the central axis of said solid-state pumping medium in a case where a direction number of said laser diodes is odd (solution). It should be noted that this claim does not further limit claim 2. This describes the function of the device and not the device itself. The device of Tsunekane is capable of functioning as claimed.

14. **With respect to claim 5**, Tsunekane further discloses characterized in that: said detection means is provided between electrodes of said laser diode and is adapted to detect a failure of said laser diode according to a voltage between said electrodes of said laser diode (solution).

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15. **With respect to claim 6**, Tsunekane further discloses characterized in that: said control means is adapted to short-circuit between electrodes of said laser diode and to bypass electric current flowing through said laser diode by controlling a bypass means provided between said electrodes of said laser diode (solution).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsunekane (JP 2004-014917) in view of Tsunekane et al. (U.S. Pre-Grant Publication 2002/0126724).

19. **With respect to claim 7**, Tsunekane does not explicitly disclose characterized by including: adjusting means adapted to detect power of an outputted laser beam and to adjust an amount of electric power supplied to said laser diode so as to obtain desired laser beam power. However, Tsunekane et al. discloses adjusting means

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adapted to detect power of an outputted laser beam and to adjust an amount of electric power supplied to said laser diode so as to obtain desired laser beam power (Fig. 14 elements 92, 91a-91d, etc). The advantage is self-evident in that it allows the device to be used in a greater number of scenarios depending on use.

20. **With respect to claim 8**, Tsunekane et al. further discloses a plurality of cavities, each of which is a combination of said solid-state pumping medium and said laser diode, are arranged on a same optical axis of a laser beam to thereby obtain a laser output (Fig. 14).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the device disclosed by Tsunekane with the adjustment means as disclosed by Tsunekane et al. in order to it allow the device to be used in a greater number of scenarios depending on use..

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA KING whose telephone number is (571)270-1441. The examiner can normally be reached on Mon.-Thurs. 10:00-7:30 and other Fri. 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joshua King/
Examiner, Art Unit 2828
05/22/2009

/Minsun Harvey/
Supervisory Patent Examiner, Art Unit 2828